## On the Possibility of Cold to Warm Distillation

Henning Struchtrup <sup>c, s</sup>
University of Victoria, Mechanical Engineering, Victoria, BC, Canada
struchtr@uvic.ca

Dick Bedeaux and Signe Klestrup

NTNU, Chemistry, Trondheim, Norway

Classical Irreversible Thermodynamics is used to derive criteria which are necessary and sufficient for cold to warm distillation, a phenomenon recently reported in the literature. The analysis shows that cold to warm distillation is, if at all, only possible close to the critical point, making the reported observation unlikely. The necessary condition for the inverted temperature profile is extended towards the same region.